

Dear Member/Candidate,

## « EN-eu-ray2005 » project

As discussed at our last General Assembly in Copenhagen, eu-ray can now offer you a very interesting proposal involving collaboration between the Technical University of Denmark/University of Padova and the industry. We will collate information which is important for all suppliers of embedded radiant heating and cooling systems. Together we will achieve a better result and it will cost just a fraction of what the study would cost to individual suppliers.

The project EN-eu-ray2005 consists of:

- **Diagrams depicting the heating/cooling capacity of typical floor systems**

This work will consist of the following subtasks:

- a) Development of diagrams and spread sheets for heating/cooling capacity and downwards losses for each of the standard floor type systems that are incorporated within the replacement EN 1264 (as “dry” systems such as wooden tiles);
- b) Development of steady-state finite-element computer models, based on the program HEAT 2 (FE). These models will facilitate the use of finite-element calculations and can be used for further calculation or included in project documentation etc. Investors in the EN-eu-ray2005 project must, however obtain a licence to use the program.

Appeal for investors in the EN-eu-ray2005 project:

The project would ensure that everyone uses the same output calculations and would also avoid interpretation (mostly by eu-ray members) of the new regulations in different ways.

By creating these spreadsheets and models centrally, it would enable the costs to be shared between the investors (a good reason to be a member of eu-ray). This work would otherwise have to be done by each company individually, at a much greater total cost.

- **Summary of CEN work;**

This work will consist of the following subtasks:

- 1a) Compilation of a simple summary of each of more than 30 work items that form the foundation for future regulations. Description of the nature of the work item, description of the current state of progress and evaluation of the changes required to become an applicable regulation;
- 1b) Description of the effect on surface heating and cooling systems and the likely effect it might have on system operation both commercially and technically.

Participation by investors in the EN-eu-ray2005 project:

Investors in the EN-eu-ray2005 project will receive the report in time to influence further development of these documents. All standards will be made available for public enquiry from April 2005 until October 2006. During this period comments must be made and eu-ray (together with the Investors) can have a significant impact by submitting members comments at a national level.

- **Calculated energy performance of buildings with embedded systems (important marketing tool).**

Calculation of the energy performance according to the proposed methods for two types of floor system compared to a standard radiator heating system.

Calculations for three different heat generation systems:

- Oil boiler
- Condensing gas boiler
- Heat pump

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Calculations for three different types of buildings:

- One family house
- Office building
- Small factory building

These three units, as part of the EN-eu-ray2005 project, would cost in the region of 70 000 euros (unit costs plus administration). This would be the approximate cost should an individual company undertake these studies alone. There would be risks in interpreting diagrams, text and formulas and the result would be more expensive and may not achieve full compliance with the standard.

By investing together, to meet the costs of the Technical Committee, we will facilitate creation of the algorithm required to conform to the new standard EN 1264. Each Investor will automatically receive the precise results which may then be used as a foundation for either design or software development.

Also we will have a clear analysis of which standards concern surface heating and cooling, what these are all about, whether they are undergoing revision and which standards may be focused for eventual revision.

The energy consumption directive is coming out in 2006. It is wise to be prepared.

The Executive Board offers the result of the work described above to:

Members of eu-ray: (economical compared to independent studies of 60 000 to 85 000 euros)	8 000 euros
Members of a national association of surface heating and cooling: (BVF, COCHEBAT, UHMA, SFF, RPA)	10 000 euros
Other companies	15 000 euros

If you would like to benefit by joining this project please fill out the attached form and send it to:

eu-ray, EUROPEAN ASSOCIATION OF  
SURFACE HEATING AND COOLING  
c/o W. Hilfiker, Bodentechnik  
Seestrasse 40  
CH-8802 Kilchberg ZH  
SWITZERLAND

by the end of April 2005. We will send you information about:

- a) Whether the project has successfully commenced;
- b) Your invoice in accordance with your membership status;

In summer 2005:

- c) The result of the EN-eu-ray2005 project.

Prof. Dr. Ing. Bjarne W. Olesen will be with us at the General Assembly in Vienna, on June 5/6th 2005. He will present details of the studies and answer questions.